

REMARKS

In accordance with the foregoing, claim 1 has been amended and claim 7 has been canceled.

Claims 1-6 are pending and under consideration.

Double Patenting Rejection

Page 2 of the final Office Action objected to claim 7 under 37 C.F.R. § 1.75. This rejection is moot as claim 7 has been canceled in the present Amendment.

Rejections Under 35 U.S.C. §103

The 35 U.S.C. § 103 rejection against claim 7 is moot as claim 7 has been canceled. Accordingly, claims 1-5 stand rejected under 35 U.S.C. §103(a) in view of Japanese Publication No. 08-050914 by Iwazawa and Japanese Publication No. 06-196176 by Niikura.

Claim 6 stands rejected under 35 U.S.C. §103(a) in view of Iwazawa and Niikura and further in view of Japanese Publication No. 06-196172 by Okuyama.

Claim 5 stands rejected under 35 U.S.C. §103(a) in view of Iwazawa and Niikura and further in view of U.S. Patent No. 5,114,803 to Ishihara.

Iwazawa is directed to a conventional fuel/air separation type fuel cell, and particularly to a cylindrical type fuel cell. In the cylindrical fuel cell of Iwazawa, air and fuel are completely separated from each other. See FIG. 4. Iwazawa purposely uses a separation design in order to prevent fuel supplied to the fuel pole from being mixed with air supplied to the air pole. By preventing the mixing of fuel supplied to the fuel pole with air supplied to the air pole, the fuel is prevented from being burned.

Claim 1 at least recites:

said at least two fuel cells being mutually arranged in such a manner that said anode layer of one of said fuel cells faces said anode layer of another, adjacent fuel cell, with a predetermined space between them and said space extends from a lower position to an upper position;

a fuel supply unit for supplying fuel into said space at the lower position thereof so that a flame is formed in said space in a direction in which said space extends,

said space defined between the adjacent anode layers being an open space at the upper position where the flame extends and being an open space at the lower position where the fuel supply unit is arranged, and

the anode layer being directly exposed to and surrounding the flame and the cathode layer being isolated from the flame, but exposed to air.

The Office Action appears to be correlating the claimed "predetermined space," with the fuel gas passage 56 described in Iwazawa. In view of all of the features of the claim, Applicants respectfully direct attention to the claimed "said space ... being an open space ... where the flame extends."

Para. [0034] of Iwazawa described a gap between the inside cel 51 and the outside cel 52 serves as the fuel gas passage 56 to which fuel gas is supplied so that the fuel electrodes 51c and 52c by which opposite arrangement was carried out may be contacted, respectively, and it may flow to them.

Iwazawa further describes that the space of the centrum of the inside cel 51 and the periphery of the outside cel 52 serves as the oxidation gas passageway 57 to which air circulates so that the air electrodes 51b and 52b may be contacted respectively and the air may circulate to them. Thus, Iwazawa fails to describe that the oxidation gas, enabling flame, circulates and contacts the fuel electrodes. In contrast, only the fuel gas circulates and contacts the fuel electrodes.

Therefore, Applicants submit that in view of all the features of the claims, the fuel gas passage 56, of Iwazawa cannot be equated to the claimed "predetermined space," as the fuel gas passage 56 of Iwazawa does not describe or suggest "said space ... being an open space ... where the flame extends," or even that the gas passage 56 of Iwazawa contains anything other than the fuel gas, and thus the gas passage 56 of Iwazawa is neither intended nor capable of holding a flame within itself.

Further, the Office Action cites to Niikura as curing the deficiency of Iwazawa of the claimed "a flame is formed in said space in a direction in which said space extends."

Niikura is directed to a cylindrical fuel cell having a cylindrical solid-electrolyte layer of zirconia on the inner circumference of which is formed with a cathode layer and on the outer circumference of which is formed with an anode layer. See FIGS. 2 and 5. As shown in FIG. 5, there is no "predetermined space," as claimed which surrounds the anode layer. Further, as the anode layer is arranged on the outer surface of the cylindrical cell, the flame applied to the cylindrical cell is applied in a perpendicular direction, and thus, the anode is not "directly exposed to and surrounding the flame," as claimed.

Further, as shown in FIG. 1 of Niikura, in a flat structure fuel cell, a flame is not directly applied to the anode, but is merely supplied to heat up the cell. Specifically, the flame 2, as

shown in FIG. 1 of Niikura, which is between the power elements 3 is used merely for heating the power elements 3, but does not directly contribute to generating electric power.

Therefore, Applicants submit that Niikura fails to cure the deficiencies of Iwazawa.

Regarding claim 6, Applicants respectfully submit that Okuyama fails to cure the above described deficiencies of Niikura and Iwazawa as described above regarding claim 1.

Regarding claim 5, Applicants respectfully submit that Ishihara fails to cure the above described deficiencies of Niikura and Iwazawa as described above regarding claim 1.

Thus, as claims 2-6 depend directly from claim 1 and include all of the features of claim 1 plus additional features which are not taught or suggested by the cited art, it is submitted that claims 2-6 patentably distinguish over the cited art.

Favorable reconsideration and a withdrawal of the rejection against claims 1-6 are respectfully requested.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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